



United States Department of Commerce

Enterprise Architecture Program Support

Enterprise Architecture Training Plan

Version 1.1

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Document Revision History

Version Number	Date	Description
1.0	02/24/06	Initial Release
1.1	08/24/06	Training goals for FY07, inclusion of project managers as a distinct group within the overall EA sphere.

Approvals

This Training Plan has been presented to and approved by:

	Date	Signature
Chief Enterprise Architect		
Director, Office of Information Technology Policy and Planning		
DOC Chief Information Officer		

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Introduction

Enterprise Architecture (EA) describes how the elements of an organization fit together – the business processes, organizations responsible for them, Information Technology (IT) capabilities and infrastructure, both today and in the future. The EA also describes how the elements transition to support the organization's strategic plans. Federal agencies are required to develop an EA to facilitate capital planning and IT development sequencing.

The goal of the Department of Commerce (DOC) Enterprise Architecture Program is to develop and implement an evolutionary, high-performance, federated enterprise architecture, aligned with Department and operating unit (OU) goals that enable enterprise-wide business functions, processes, and data integration. The Clinger-Cohen Act of 1996 assigns the Chief Information Officers (CIO) the responsibility of developing, maintaining, and facilitating the implementation of a sound and integrated Enterprise Architecture

Goal

The DOC EA Training Plan describes how the Department intends to train its implementation and user communities in the use of the EA. This will include training on EA practice, modeling tools and repositories, and how to align the EA with other Departmental initiatives, such as capital planning and software development.

Objectives / Benefits

DOC will develop, disseminate, and periodically review/update the EA Training Plan and associated processes in order to establish and maintain a workforce that is knowledgeable of EA and able to develop and maintain a dynamic EA practice across the Department. The objective is to establish a training program that provides courses delivered via a variety of approaches and at varying level of complexity so that all Department employees have access to EA training that fits their particular needs based on their level of involvement with the DOC EA.

Training Categories

Training at the Department and operating unit levels will be tailored to support the positions individuals/groups have in relation to the Department EA. These positions fall under the following categories:

- **Business Decision Makers** – These individuals set the strategy direction, make policy and or business decisions at the Department and operating unit levels. This category includes: Senior Staff, Stakeholders, CIO's, and Program Managers.
- **Project Managers** – These individuals are responsible for the day-to-day management of projects and must interact on a regular basis to ensure compliance with the Enterprise Architecture.
- **Chief Enterprise Architects** - These individuals are responsible for developing and maintaining the Department and its operating units' Enterprise Architectures. Additionally the Chief Enterprise Architects are responsible for defining the policies, principles, and standards for developing and documenting the Department and its operating units' Enterprise Architecture
- **Enterprise Architects** – Support the Chief Enterprise Architect in developing, documenting and maintaining the Department and its operating units' Enterprise Architectures.
- **Solutions Architects** – These individuals work closely with the Enterprise Architecture staffs and project managers to design systems consistent with the EA and the business requirements of the project.
- **Other DOC Employees** - Employees of DOC, who may have informal interaction with Enterprise Architecting processes/products/services or an interest in learning more about Enterprise Architecting

Training Sources

In order to support the varied levels of EA training required at DOC, the Department will employ multiple approaches to obtain the core training and continuing education units. Available opportunities include:

- Government provided EA Curriculum, such as
 - USDA Graduate School EA Certification Program (under development)
 - National Defense University IRM, with concentration in EA
- University Training
 - George Mason University
 - Syracuse University
 - Virginia Polytechnic Institute and State University
- Commercial Training
 - Federal Enterprise Architecture Certification (FEAC)
 - Intervista Institute

- Contractor provided training
- DOC Developed Training
- Conferences
 - E-Gov Institute's Enterprise Architecture Conference
 - DCI EA Conference
 - Gartner Enterprise Architecture Summit
 - EA Converge
- Government Sponsored Forums
 - Chief Architects Forum
 - OMB led Training
- Professional Society Forums
 - ArchitecturePlus
 - AFCEA Breakfasts

Table 1 depicts a mapping of recommended/optional training topics to the Department/Operating Unit Categories described above. Appendix A contains a description of each of the listed courses. Suggested courses for the Chief Architect, Enterprise Architect and Solutions Architect:

- EA Methods and Frameworks
- Applications Architecture/SRM
- Security Architecture
- Introduction to EA Toolset

EA Practitioners are encouraged to pursue certification and to maintain their skills through continuing education and participation in conferences and/or Government sponsored forums.

Training Program Oversight

The DOC Enterprise Architecture Advisory Group will provide advice and guidance on the EA Training Plan. Each Departmental operating unit is responsible for funding the training for their employees and maintaining records of the training education received by their employees.

Table 1 - Mapping of Training Topics/Opportunities to DOC EA Practice Categories

Topic	Training Levels	Business Decision Makers	Project Managers	Chief Enterprise Architects	Enterprise Architects	Solutions Architects	Other DOC Personnel
EA Executive Overview	B	■	■	○	■	○	■
Introduction to EA	B	○	■	■	■	■	○
EA Methods and Frameworks	I	○	○	○	■	○	○
Implementing an Enterprise Architecture	I	○	○	■	■	■	○
Performance Architecture and the FEA PRM	I	○	■	■	■	○	○
Business Architecture and the FEA BRM and Business Modeling	A	○	■	■	■	○	○
Data Architecture and the FEA DRM	A	○	■	■	■	■	○
Applications Architecture and the FEA SRM	A	○	■	○	■	■	○
Infrastructure Architecture and FEA TRM	A	○	■	■	■	■	○
Security Architecture	A	○	■	■	■	■	○
Service Oriented Architecture (SOA) Components and Services	A	○	○	■	■	■	○
EA Governance	I	○	■	■	■	■	○
Introduction to EA Tools	B	○	○	■	○	■	○
Facilitating and Coaching Architecture Completion, Use and Results:	I	○	○	■	○	○	○
Executive Buy In	I	○	○	■	■	■	○
EA Toolset	I	○	○	■	■	■	○
User Training	Various	○	○	■	■	■	○
Continuing Education		○	○	■	■	■	○

Legend: B – Beginner Level; I – Intermediate Level; A – Advanced Level

■ - Denotes required course

○ - Denotes Optional course

Training Goals for FY 2007

The two most important groups to train are the Enterprise Architects and the Project Managers. Trained architects are difficult to find and there is a high demand for them currently, so there is also a high turnover rate among the junior and mid-level architects within the Department.

To offset this gap, concentration on training new and prospective architects becomes an imperative. Commerce has been working closely with the USDA Graduate School to help refine their course material and, once this has been completed, Commerce will pursue as much training for Enterprise Architects as possible within the budget constraints. We hope to have at least 50% of the identified candidates complete the Introduction to EA, EA Methods and Frameworks, and EA Governance classes by the end of FY 2007.

Project Managers are the direct tie between planning and implementation, and thus require a good working knowledge of Enterprise Architecture and how it is used in the various life cycle stages of project management (as detailed in the DOC System Development Life Cycle document (SDLC)). To that end, Commerce has added Project Managers as a distinct group within the training requirements for EA (as seen in Table 1).

It is vital to the success of EA at Commerce that the EA functions transcend the technical world and be incorporated into the overall business process of the Department. Commerce will begin this process by training as many Project Managers as possible in FY 2007, by attendance at the EA Executive Overview course, and the Introduction to EA course. This will be supplemented with presentations to the Project Management community regarding specific requirements defined by Commerce as well as The Office of Management & Budget.

One of the key objectives of both of these training initiatives is to foster the linkage between Enterprise Architecture and Capital Planning. The Commerce Chief Architect will continue to work closely with the Capital Planning staff to tailor the training requirements to achieve this goal.

Appendix A: Course Descriptions

EA Executive Overview

This is a brief informational overview/presentation of the enterprise architecture practice available for all employees.

Introduction to Enterprise Architecture

This course provides an introduction to and overview of “enterprise architecture.” Architectural frameworks and approaches will be reviewed, in conjunction with legislative and regulatory requirements, including those published by OMB’s Federal Enterprise Architecture Program Management Office (FEAPMO).

EA Methods and Frameworks

This course will provide introduction to and overview of the most commonly used EA Methods and Frameworks employed in the Federal Government. Specific curriculum has not been identified at this time.

Implementing an EA

This course addresses not only the “Federal Enterprise Architecture Program EA Assessment Framework 2.0” requirements for “*Getting to Green*” relative to “*Completion*,” “*Use*,” and “*Results*,” but how best to do so to most effectively meet the needs of the agency.

Performance Architecture/PRM Development and Linkage to Strategic Plan

This addresses the FEA Performance Reference Model (PRM) requirements vis-à-vis mission and business results, customer results, processes, and technology. PRM linkages to agency strategic plans and performance objectives will be addressed, as will differences between outcomes versus outputs.

Business Architecture/BRM and Business Modeling

This course addresses the FEA Business Reference Model (BRM) requirements and how to capture EA content employing different business modeling notations. Three primary process/object modeling notations will be explored along with the pros and cons associated with using each. EA modeling tools will additionally be explored and assessed vis-à-vis the use of each of these modeling notations.

Data Architecture/DRM

This course explores the concept and value of metadata registries vis-à-vis the FEA Data Reference Model (DRM) and ISO/IEC 11179, and how best to implement effective data sharing across and among enterprises for performance monitoring and real time decision making.

Applications Architecture/SRM

This course will address the FEA Service Component Reference Model (PRM) requirements vis-à-vis applications that support mission and business results, customer results, processes, and technology. SRM linkages to agency strategic plans, performance objectives, data and technology will be addressed. Specific curriculum has not been identified at this time.

Technical Architecture/TRM

This course addresses requirements in the FEA's Technical Reference Model (TRM) and associated relationships with the Open Systems Interconnection (OSI) Reference Model. The development of technical standards and specifications, to include security standards, will be addressed; and, configuration management will be discussed in the context of organizational compliance with selected standards.

Security Architecture

This course will address security and privacy issues and how to properly address them at all layers of the enterprise architecture. Specific curriculum has not been identified at this time.

Service Oriented Architectures (SOA) Components and Services

This course provides a general overview of the application and use of service oriented architectures (SOA) in the context of EA. The identification, scope and reuse of services (and components) will be addressed not only in this context but also relative to business processes and data.

EA Governance

This course provides an overview of the policies, processes, and procedures, through which the EA integrates into the decision-making process of an organization.

Introduction to EA Toolset

This course provides an overview of the most commonly used “tools” in the EA practice. Specific curriculum has not been identified at this time.

Facilitating and Coaching Architecture Completion, Use and Results: Executive Communications and Buy in

This course addresses the strategies for communicating an agency’s EA and cultivating the agency’s business ownership of the same

EA Toolset User Training

This is a course or series of course to train the Chief Architect(s), Enterprise Architect(s), and Solutions Architect(s) in the suite of tools selected for modeling the DOC Enterprise Architecture.